

Ocean gales and storms, April, 1925—Continued

| Vessel | Voyage | | Position at time of lowest barometer | | Gale began | Time of lowest barometer | Gale ended | Lowest barometer | Direction of wind when gale began | Direction and force of wind at time of lowest barometer | Direction of wind when gale ended | Highest force of wind and direction | Shifts of wind near time of lowest barometer |
|---------------------------|----------------|---------------|--------------------------------------|-----------|------------|--------------------------|------------|------------------|-----------------------------------|---|-----------------------------------|-------------------------------------|--|
| | From— | To— | Latitude | Longitude | | | | | | | | | |
| Irene, Am. sch. | Honolulu | Grays Harbor | 43 11 N. | 144 W. | 6th | 2a. | 6th | 29.60 | SW | SE., 8. | N. | SE., 8. | SW-SE. |
| Arabia Maru, Jap. S. S. | Victoria | Yokohama | 48 45 N. | 167 10 E. | 6th | Noon, 6th | 7th | 29.19 | SSW | S. 8. | WNW | WSW., 9. | S.-W. |
| West Niger, Am. S. S. | Columbia River | do | 47 10 N. | 170 30 E. | 6th | 3a., 10th | 11th | 29.38 | WSW | SE., 8. | WSW | SW., 9. | SE.-SW. |
| Tokiwa Maru, Jap. S. S. | Vancouver | do | 52 N. | 155 W. | 7th | 6p., 7th | 9th | 29.29 | S. | SW., 6. | NW | WNW., 9. | Steady NE. |
| Achilles, Br. S. S. | Yokohama | Victoria | 46 43 N. | 168 53 E. | 8th | 1a., 8th | 9th | 29.96 | W. | W., 9. | WNW | W., 9. | |
| Tamaha, Br. S. S. | Hongkong | San Francisco | 23 50 N. | 118 50 E. | 8th | 4a., 8th | 9th | 30.11 | NE | NE., 8. | N. | NE., 8. | |
| Makawell, Am. S. S. | Port Allen | do | 32 40 N. | 137 59 W. | 9th | 4a., 9th | 10th | 29.22 | NW | NW., 8. | NW | NW., 9. | |
| Talhybius, Br. S. S. | Puget Sound | Yokohama | 42 24 N. | 154 E. | 9th | 2p., 9th | 10th | 29.42 | SE | SSW., 8. | NW-N | SE | S.-SW. |
| West Ivan, Am. S. S. | Hongkong | San Francisco | 41 50 N. | 155 E. | 9th | 10p., 9th | 11th | 29.40 | SSE | S., 8. | WNW | S., 8. | |
| Dickenson, Am. S. S. | Midway Island | Honolulu | 26 07 N. | 169 50 W. | 9th | 6p., 10th | 12th | 30.12 | ENE | ENE., 8. | ENE | ENE., 9. | E.-ENE. |
| Aorangi, Br. S. S. | Victoria | do | 33 16 N. | 141 27 W. | 12th | 1a., 12th | 13th | 29.44 | N. | NW., 8. | N. | NW., 8. | N.-W.-NW. |
| West Keats, Am. S. S. | Dairen, Japan | San Francisco | 39 40 N. | 148 50 E. | 13th | 4p. | 13th | 29.53 | ESE | ESE., 9. | SW | ESE., 9. | |
| Yokohama Maru, Jap. S. S. | Victoria | Yokohama | 52 36 N. | 148 13 W. | 14th | 7a., 14th | 15th | 29.78 | W | NW., 8. | WNW | NW., 8. | ESE.-SW. |
| Mauna Ala, Am. S. S. | Bellingham | Hawaii | 42 48 N. | 135 03 W. | 15th | 9a., 15th | 17th | 29.52 | SSW | W., 5. | W | WSW., 8. | SSW.-W.-WSW |
| Meiyo Maru, Jap. S. S. | Mororan, Japan | Tacoma | 46 19 N. | 153 30 W. | 20th | 2a., 29th | 29th | 29.63 | NW | W.-S., 7. | W. S. | WNW., 8. | |
| West Jessup, Am. S. S. | Yokohama | Portland | 49 30 N. | 150 W. | 26th | 8p., 27th | 28th | 29.41 | WNW | SW., 8. | SW | W., 8. | WSW.-W. |
| Africa Maru, Jap. S. S. | do | Victoria | 48 07 N. | 174 49 E. | 26th | Noon | 29th | 29.72 | WSW | WSW | W | WSW., 8. | |

NORTH PACIFIC OCEAN

By WILLIS EDWIN HURD

April, like the preceding month, witnessed the almost complete control of the North Pacific anticyclone over the eastern waters of the ocean. It fluctuated somewhat, cresting near the 35th parallel, between the 165th and 180th meridians, during the first half of the month, then variously from the 35th to 45th parallels, 145th meridian, during the remainder. It was but little encroached upon by cyclonic influences from the north, and was entered by only one depression from elsewhere—a disturbance of generally slight intensity which originated apparently near 30° N., 140° W., on the 7th. This low caused unsettled weather and some moderate gales over the central part of the California-Hawaiian routes until the 15th, when it moved northward and joined with the lower projection of the cyclone which, then central over the northern part of the Gulf of Alaska, extended down the coast as far as the 40th parallel.

A small cyclone also hung over and east of Midway Island from the 23d to the 28th, though slowly drifting northward. No gales have been reported as accompanying its movements.

Consequent upon the general position and intensity of the HIGH, the northeast trades were unusually steady over a great part of their average area, and the easterly winds on the southern slope of the anticyclone, unusually strong. At Honolulu the average wind velocity was again, as in March, the highest of record for the month being for April 11.8 m. p. h. the wind blowing with exceptional constancy from the east. The maximum velocity was at the rate of 34 miles an hour from the east on the 17th, but velocities equaling or exceeding 25 miles an hour occurred on 10 days.

Throughout the Aleutian region, including the Gulf of Alaska, cyclonic conditions were maintained during about three-fourths of the month, with the average center of the depression lying over the northwestern part of the gulf. On several days the LOW moved northward over Alaska or the Arctic Ocean, and thus only slightly affected the weather along the northern sailing routes. The average pressure over the whole area from Dutch Harbor and St. Paul to Juneau was

below normal, although no readings lower than 29 inches were recorded on land or sea.

From the Gulf of Alaska, or thereabouts, LOWS connected with the oscillating Aleutian cyclone entered the mainland on the 3d, 6th, 9th, 16th, 18th, 21st, and 28th.

The following table of pressure data is made from the records at various island stations, as well as from a few American coast stations. Averages are for both 8 a. m. and 8 p. m. observations, 75th meridian time, except as noted:

| Station | Average pressure | Departure from normal | Highest | Date | Lowest | Date |
|-----------------|------------------|-----------------------|---------|------|--------|-------|
| Dutch Harbor * | † 29.76 | -0.06 | 30.30 | 14th | 29.24 | 19th. |
| St. Paul | † 29.72 | -0.08 | 30.32 | 13th | 29.08 | 19th. |
| Kodiak | † 29.65 | -0.15 | 30.24 | 10th | 29.12 | 29th. |
| Midway Island * | † 30.02 | -0.08 | 30.38 | 5th | 29.52 | 24th. |
| Honolulu | 30.08 | +0.01 | 30.20 | 17th | 29.97 | 8th. |
| Juneau | 29.87 | -0.09 | 30.47 | 26th | 29.35 | 30th. |
| Tatoush Island | 30.02 | -0.02 | 30.46 | 25th | 29.58 | 18th. |
| San Francisco | 30.02 | -0.02 | 30.30 | 17th | 29.68 | 21st. |
| San Diego | 30.00 | +0.04 | 30.18 | 1st | 29.70 | 21st. |

* For 28 days only.

† P. m. observations only.

During the first four days of April the Asiatic HIGH was nonexistent on the China coast, but from then until the 20th it was well built up, so that a fairly strong northeast monsoon current was reported on a few days from the Formosa Channel and parts of the China Sea. After the 20th unsettled spring conditions of pressure were maintained over the southern waters of the Far East until the end of the month.

Several cyclones entered the Pacific from Japan, and rough weather—rougher than in any other part of the Pacific—prevailed in that neighborhood on a number of days during the early half of the month. From the 4th to the 10th high winds were of almost daily occurrence along that portion of the northern steamer lanes between 160° E. and the 180th meridian. Winds as high as force 10 occurred on two or three days, while no forces exceeding 9 were recorded elsewhere on any day. Few winds exceeding force 7 were observed from the 18th to 25th, inclusive. In west longitudes gales were scattered and, as elsewhere, occurred mostly during the early half of the month.

Snow squalls to heavy snows occurred in middle and higher latitudes on several days. The American steamship *West Jessup* encountered heavy snow in $49^{\circ} 30' \text{ N.}$, 150° W. , with air temperature of 36° , as late as April 27.

No evidences of a tropical storm for this month have been deduced from any of the reports yet received. Off the Mexican and Central American west coast the usual light variable winds of the season were prevalent, with a tendency toward becoming gentle northwesterly in the upper reaches.

Fog, from isolated patches to wide, dense banks, was observed on the horizon or passed through by vessels in many parts of the ocean, generally north of the 30th parallel. The phenomenon was most frequent in east longitudes, where it occurred largely after the middle of April, except near 30° N. , 155° E. , where it was observed on the 4th to 6th. Along the American coast between the 40th and 20th parallels fog prevalence showed a decided increase over that of March. Off Cape San Lucas it was reported on five days.

NOTES

Panaman motor ship *City of San Francisco*, San Pedro to Panama, Capt. C. Zastrow; observer, David Porter, second officer:

April 11 to 14, very hazy. This haze is very likely smoke, but in the early morning before sunrise it is impossible to distinguish this from the true "Cirrus haze." Our courses lie close to the land, which makes it more difficult. Approaching San Jose de Guatemala, this haze or smoke was so thick as to render the lights of the town, ordinarily visible 10-12 miles, invisible until within a mile.

British S. S. *London Shipper*, San Francisco to Balboa, Capt. D. Buckley; observer, J. Kenner, second officer:

April 29, 2:30 a. m., local time. Extraordinary visibility. Bona Island Light, $8^{\circ} 34' \text{ N.}$, $79^{\circ} 35' \text{ W.}$, being plainly visible from southward 36 miles distant.

American tanker *India Arrow*, Shanghai to San Francisco, Capt. S. C. Ibsen; observer, Jos. B. Smyth, second officer:

April 19, 2:05 p. m., local time, in $36^{\circ} 23' \text{ N.}$, 146° E. , the temperature of the sea water dropped suddenly from 66° to 40° , that of the air falling rapidly from 64° to 56° , and the water changing from blue-green to dark olive-green. Wind northeasterly; force, 1; barometer, 30.43 (corrected). Weather fine, clear sky, horizon hazy, sea smooth. Temperature of the sea went up slowly until it reached 60° at midnight, when we reached $37^{\circ} 04' \text{ N.}$, $148^{\circ} 08' \text{ E.}$

GALES IN THE INDIAN OCEAN AND OFF THE AFRICAN COAST

By ALBERT J. McCURDY, Jr.

Indian Ocean.—Weather reports thus far received from vessels that traversed the shipping routes of the Indian Ocean in April, 1925, indicate only two disturbances of any consequence.

The first, a northwesterly gale, accompanied by frequent rain and hail squalls, together with high seas, was experienced on the 1st, 2d, and 3d by the British S. S. *Port Campbell*, Capt. P. J. Reynolds, London to Melbourne. Mr. J. Buchan, observer, reports that the lowest barometer recorded was 28.43 inches (uncorrected) at midnight on the 1st in $43^{\circ} 17' \text{ S.}$, $71^{\circ} 21' \text{ E.}$ The wind at the time was W., force 8.

A report of the second gale was received from the British S. S. *Mahana*, London to Melbourne. The observers, Messrs. F. Smith, H. Smith, and J. Rogers, state that a moderate gale began on the 6th, accompanied by high seas and rain showers. The lowest pressure observed was 29.48 inches, occurring at 10 a. m. on the 6th in 43° S. , $48^{\circ} 40' \text{ E.}$ The wind at this time was W., force 4. This gale lasted throughout the evening of the 7th, and during that time the wind increased to force 8, with shifts to the NW., WNW., W., and WSW.

Mediterranean Sea.—Of the cyclonic disturbances occurring in the Mediterranean Sea during April, only one of any importance has been reported. This was a depression north of Port Said that appeared on the 2d and caused until the 4th strong breezes to strong gales, with accompanying rain squalls and rough seas. The American S. S. *Egremont*, Capt. D. Holth, Bombay to New York, came within its influence on the 2d. Mr. C. E. Dunton, observer, reports that the lowest pressure was 29.47 inches, occurring at 4 p. m. on the 2d in $31^{\circ} 38' \text{ N.}$, 32° E. The wind at this time was E., force 6, but later shifted to N. and NW. and increased to force 9.

Red Sea.—The only reported gale of any consequence was a disturbance encountered on the 12th and 13th in the vicinity of the Kamaran Islands by the Japanese S. S. *Bengal Maru*, Capt. M. Araki, Calcutta to Suez. Mr. R. Neyazaki, observer, states that the lowest barometric reading, 29.71 inches, was recorded at 4 a. m. on the 13th in $14^{\circ} 38' \text{ N.}$, $41^{\circ} 55' \text{ E.}$ The wind at this time was S., force 7, and increased to a fresh gale that lasted until 3 p. m. of the 13th.